



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/776,859

Filing Date: February 11, 2004

Applicant: Mastaler et al.

Group Art Unit: 2838

Examiner: Edward H. Tso

Title: BATTERY ADAPTER FOR A CORDLESS POWER  
TOOL SYSTEM AND RELATED METHOD

Attorney Docket No.: 0275A-000420/COA

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Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.131

Sir:

WE hereby declare:

1. That we are the inventors for the above-identified application that was filed on February 11, 2004.
2. That the above identified application is a continuation of United States Patent Application Serial No. 10/095,289, filed on March 8, 2002, which claims priority from United States Provisional Patent Application Serial No. 60/274,409 filed March 9, 2001.

3. That our invention was at least conceived and/or reduced to practice in the United States prior to August 11, 2000, which is the filing date of provisional application No. 60/224,662 from which U.S. Patent No. 6,525,511 claims priority. Redacted photocopies of invention disclosures demonstrating our conception and reduction to practice in the United States prior to August 11, 2000 is attached as Exhibit A. The attached documents include photographs of a prototype that worked for its intended purpose.

4. That each of the dates deleted or otherwise blacked out from Exhibit A are prior to August 11, 2000.

5. That the invention has never been abandoned, suppressed or concealed.

6. As an undersigned, I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 the United States Code, and that such willful false statement may jeopardize the validity of the application, and patent issuing thereon, or any patent to which this verified statement is directed.

Date: 11/02/04

Thomas Mastaler  
Thomas Mastaler

Date: 11/02/04

Paul G. Gross  
Paul G. Gross

Date: \_\_\_\_\_

Nathan May

Date: Nov 2 2004

  
\_\_\_\_\_  
Fred S. Watts



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Date: \_\_\_\_\_

\_\_\_\_\_  
Thomas Mastaler

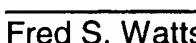
Date: \_\_\_\_\_

\_\_\_\_\_  
Paul G. Gross

Date: 11/10/04

  
Nathan May

Date: \_\_\_\_\_

  
Fred S. Watts



1. Disclose your invention carefully.
2. Use this form as a guide
3. Use your own words or terms.
4. Add additional inventor blanks as necessary
5. Use ink (or typewritten).
6. Use additional pages, if necessary.
7. Include drawings, sketches or photos.
8. If known, identify business unit (Accessory, Consumer, Professional, Outdoor) having primary interest in the invention.

TITLE: Adapters for Battery Interchangeability

PROJECT:

**OBJECT:** The problem to be solved by this disclosure is:

To provide a strategy for converting users of a competitor's cordless system, who already have invested into such system, to another competitor's cordless system. Alternatively, a strategy is needed to convert users of a competitor's present cordless system to same competitor's new incompatible cordless system.

**SOLUTION: (Summary:)**

The conversion from a first system to a second system can be facilitated via adapters. These adapters can also change features, upgrade capabilities, etc.

**DESCRIPTION:**

Company A designs and build adapters that allow the batteries of Company B and/or C, etc. to be inserted into and connected to the products and chargers of Company A. Accordingly, the user will have alternatives when the Company B and/or C, etc. battery reaches the end of its functional life: (1) purchase a replacement Company B and/or C, etc. battery and continue using the Company A adapter; or (2) purchase a Company A battery. If the user chooses the latter, when the users Company B and/or C, etc. products or chargers reach the end of their functional lives, the user can then purchase Company A products and chargers.

Similarly, if Company A wants to phase out a first battery configuration and phase in a new second battery configuration, Company A can design and build adapters that allow the second batteries configuration to be inserted into and connected to the products and chargers of the first battery configuration. When the products and chargers accepting the first battery configuration reach the end of their functional lives, the user can then purchase the products and chargers which accept the second battery configuration, rather than a competitor's products, batteries and chargers.

These adapters can be removed or permanently attached to the products, charger, or batteries.

*Charger can be sold w/ battery*

The adapters can have a single purpose intent, i.e., adapt the Company A battery for connection to the Company B products and chargers, or multi-purpose intent, i.e., adapt the Company A battery for connection to the products and chargers of Companies B, C, D, etc.

The adapters may have electronic modules for tool control, state of charge/discharge diagnostics, application data logging, forced air-cooling, current limiting, or other functions.

**ADVANTAGES:**

Include supporting the existing level of a users investment in batteries, chargers and products, while maintaining the ability to replace, expand and upgrade any of these components within the users cordless system. Ultimately, users are assured that the function and utility of their system is viable over time.

DATE OF CONCEPTION: 20 00 BUSINESS UNIT USPT - DW Cordless

INVENTOR: Thomas A. Mastaler DATE OF SIGNATURE: 11/21/2000

PRINTED NAME: Thomas A. Mastaler MAIL STOP TW120 PAYROLL NUMBER 63239

INVENTOR: \_\_\_\_\_ DATE OF SIGNATURE \_\_\_\_\_ 20 \_\_\_\_\_

PRINTED NAME: \_\_\_\_\_ MAIL STOP \_\_\_\_\_ PAYROLL NUMBER \_\_\_\_\_

EXPLAINED TO AND UNDERSTOOD BY US, THE WITNESSES:

William A. Georg ON THE 29 DAY OF Nov., 2000

Ruth Rop ON THE 29 DAY OF Nov., 2000

RECEIVED ON 20 BY \_\_\_\_\_ ASSIGNED \_\_\_\_\_  
DISCLOSURE NO. \_\_\_\_\_ PAGE 1 OF 1

BEST AVAILABLE COPY

1. Disclose your invention carefully. Use ink(or typewritten)  
2. Use this form as a guide. 5. Use additional pages, if needed.  
3. Use your own words or terms. 6. Use drawings, sketches, or photos.

TITLE: Battery Charger Adapter PROJECT: Professional Cordless Tools

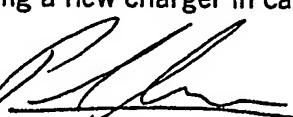
OBJECT: The problem to be solved by this disclosure is: The B&D cordless power tool user can have the option to use a 24 volt DeWalt charger to charge any other DeWalt battery pack from 9.6 to 18 volts.

SOLUTION: (summary): An adapter that fits the DeWalt 24 volt charger on one end, and fits the other DeWalt battery packs one the other.

DESCRIPTION: A plastic housing similar to a 24 volt battery pack that plugs into the 24 volt charger and also accepts other DeWalt batteries in the top. This adapter would have four input terminals that interface with the charger. Two of the input terminals would attach directly to output terminals for charging. Another input terminal would attach to a thermistor which is built into the adapter at the output terminals for thermal protection. The last terminal would attach to a resistor to tell the charger it is charging a NiCad. battery pack.

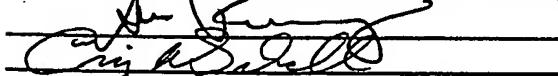
ADVANTAGES: Advantages of this adapter are: 1) The user only has to have one charger on the site to charge all of the DeWalt battery packs. 2) The adapter offers thermal protection during charging. 3) The user now has the opportunity the use the tune-up mode on the 24 volt charger. 4) The cost to the user to buy an adapter would be substantially less than replacing a new charger in case the old one is no longer available.

INVENTORS: Paul G. Gross  
Nathan May



DATE OF SIGNATURE: 2-7-2000 Payroll No. 5136  
DATE OF CONCEPTION: [REDACTED] Payroll No. [REDACTED]

EXPANDED TO AND UNDERSTOOD BY US, THE WITNESSES:

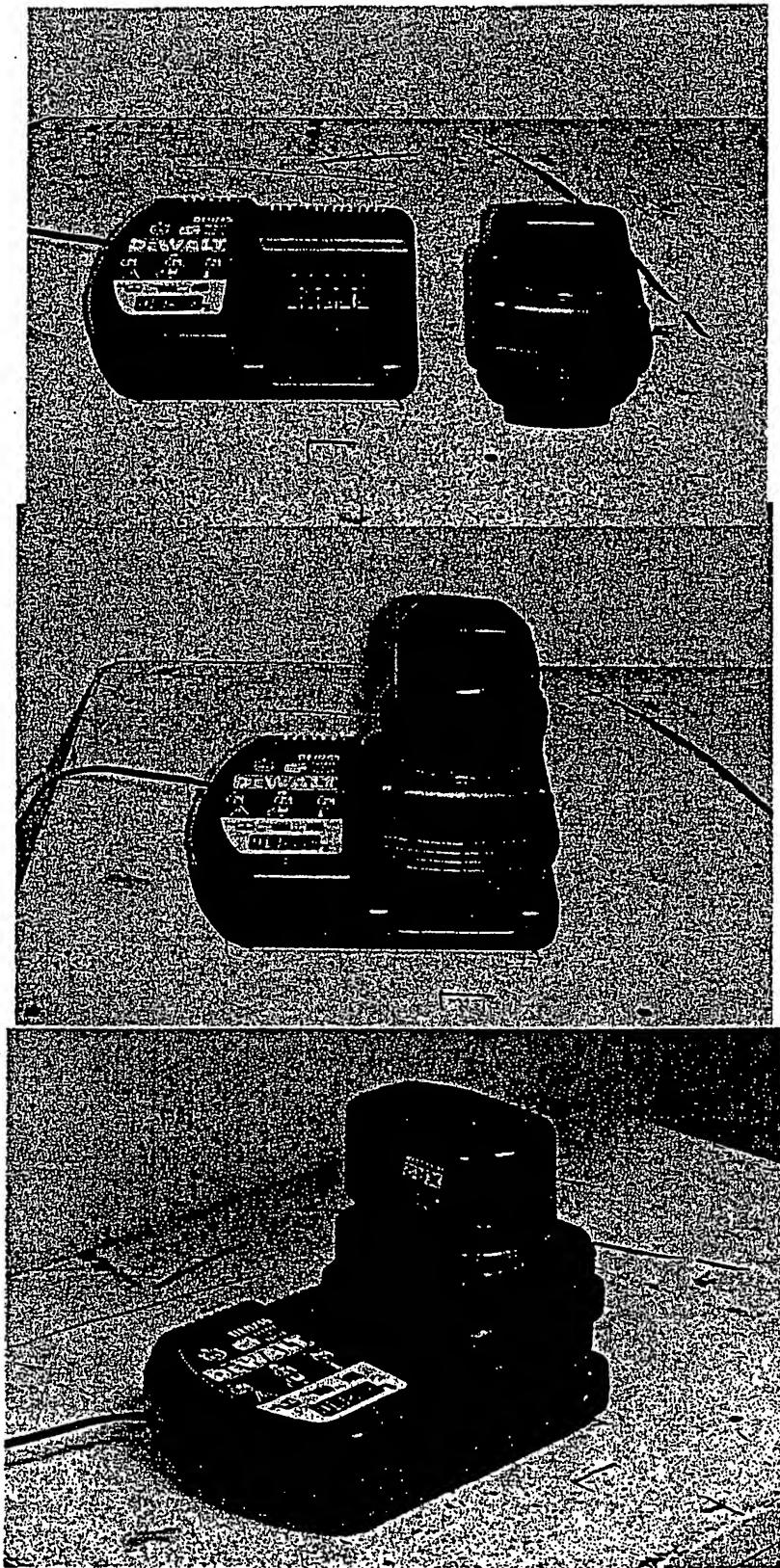

DATE OF SIGNATURE: 2-7-2000  
DATE OF SIGNATURE: 2-7-2000

RECEIVED ON Feb 21, 2000 BY SCh

ASSIGNED DISCLOSURE NO. PD-TN-2026

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Disclosure No. PD 7N-2026  
Date Received Feb. 21, 2000  
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